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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,545	06/16/2005	Stefan Berg	100915-1P US	7990

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ASTRA ZENECA PHARMACEUTICALS LP  
GLOBAL INTELLECTUAL PROPERTY  
1800 CONCORD PIKE  
WILMINGTON, DE 19850-5437

EXAMINER
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MURRAY, JEFFREY H

ART UNIT	PAPER NUMBER
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1624

MAIL DATE	DELIVERY MODE
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01/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/539,545

**Applicant(s)**

BERG ET AL.

**Examiner**

JEFFREY H. MURRAY

**Art Unit**

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-34 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

- I. The compound or composition of the formula I, where Z=N, X=N, and P is a 6-membered heterocyclic ring with at least one nitrogen, according to Claims 1-10.
- II. The compound or composition of the formula I, where Z=N, X=N, and P is a 6-membered heterocyclic ring with only one nitrogen, according to Claims 1-10.
- III. The compound or composition of the formula I, where Z=N, X=N, and P is a 5-membered heterocyclic ring with at least one nitrogen, according to Claims 1-10.
- IV. The compound or composition of the formula I, where Z=N, X=N, and P is a heterocyclic ring with no nitrogen members, according to Claims 1-10.
- V. The compound or composition of the formula I, where Z=N, X=N, and P is a phenyl ring, according to Claims 1-10.
- VI. The compound or composition of the formula I, where Z=N, X=CH, and P is a 6-membered heterocyclic ring with at least one nitrogen, according to Claims 1-10.
- VII. The compound or composition of the formula I, where Z=N, X=CH, and P is a 6-membered heterocyclic ring with only one nitrogen, according to Claims 1-10.
- VIII. The compound or composition of the formula I, where Z=N, X=CH, and P is a 5-membered heterocyclic ring with at least one nitrogen, according to Claims 1-10.
- IX. The compound or composition of the formula I, where Z=N, X=CH, and P is a heterocyclic ring with no nitrogen members, according to Claims 1-10.

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- X. The compound or composition of the formula I, where  $Z=N$ ,  $X=CH$ , and P is a phenyl ring, according to Claims 1-10.
- XI. The compound or composition of the formula XIXa, where R1 and R2 form a 6-membered heterocyclic ring with at least one nitrogen, according to Claims 25-27.
- XII. The compound or composition of the formula I, where R1 and R2 form a 6-membered heterocyclic ring with only one nitrogen, according to Claims 25-27.
- XIII. The compound or composition of the formula I, where R1 and R2 form a 5-membered heterocyclic ring with at least one nitrogen, according to Claims 25-27.
- XIV. The compound or composition of the formula I, where R1 and R2 form a heterocyclic ring with no nitrogen members, according to Claims 25-27.
- XV. The compound or composition of the formula I, where R1 and R2 form a phenyl ring, according to Claims 25-27.
- XVI. The compound or composition of the formula IV, where X is N, according to Claims 28-30.
- XVII. The compound or composition of the formula IV, where X is CH, according to Claims 28-30.
- XVIII. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=N$ , and P is a 6-membered heterocyclic ring with at least one nitrogen, according to Claims 28-30.
- XIX. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=N$ , and P is a 6-membered heterocyclic ring with only one nitrogen, according to Claims 28-30.
- XX. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=N$ , and P is a 5-membered heterocyclic ring with at least one nitrogen, according to Claims 28-30.
- XXI. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=N$ , and P is a heterocyclic ring with no nitrogen members, according to Claims 28-30.
- XXII. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=N$ , and P is a phenyl ring, according to Claims 28-30.
- XXIII. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=CH$ , and P is a 6-membered heterocyclic ring with at least one nitrogen, according to Claims 28-30.

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XXIV. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=CH$ , and P is a 6-membered heterocyclic ring with only one nitrogen, according to Claims 28-30.

XXV. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=CH$ , and P is a 5-membered heterocyclic ring with at least one nitrogen, according to Claims 28-30.

XXVI. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=CH$ , and P is a heterocyclic ring with no nitrogen members, according to Claims 28-30.

XXVII. The compound or composition of the formula XXII, where  $Z=N$ ,  $X=CH$ , and P is a phenyl ring, according to Claims 28-30.

The use of a compound of any one of the above groups of claims 1-7, according to Claim 11.

The use of a compound of any one of the above groups of claims 1-7, according to Claims 12-13.

The use of a compound of any one of the above groups of claims 1-7, according to Claim 14-15.

The use of a compound of any one of the above groups of claims 1-7, according to Claim 16.

The use of a compound of any one of the above groups of claims 1-7, according to Claim 17.

The use of a compound of any one of the above groups of claims 1-7, according to Claims 18, 19 and 21.

The use of a compound of any one of the above groups of claims 1-7, according to Claim 20.

The use of a compound of any one of the above groups of claims 1-7, according to Claim 22.

The use of the intermediates of one of the above groups of claims 25-33, according to Claim 34.

A process for the preparation of any one of the above groups, according to Claim 23.

A process for the preparation of any one of the above groups, according to Claim 24.

2. The inventions listed as the above Groups do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature linking the claims is a compound of general formula I. Groups I-XXVII are directed to structurally dissimilar compounds or compositions such that the variable core created by varying the definitions of the formula do not belong to a recognized class of chemical compounds in the art, and references anticipating one invention would not render obvious the others. For example, the compound of: 3-amino-6-chloro-N-methylpyrazine-2-carboxamide is not the same as the compound of a 2-amino-N-(3-oxoprop-1-ynyl)-5-(pyrimidin-4-yl)nicotinamide. Thus, separate searches in the literature as well as in the U.S. Patent Classification System would be required. Each group's compounds are made and used independently of each other and could support separate patents. The compounds differ significantly in chemical structures. One skilled in the art would not consider such diverse structures as functional equivalents of each other. The mere fact that there is a single similarity is not in itself a significant reason to render the whole embodiment obvious. Therefore, the feature linking the claims does not constitute a special technical feature as defined by PCT Rule 13.2 as it does not define a contribution over the art.

Accordingly, all of the above Groups are not so linked by the same or a corresponding special technical feature as to form a single general inventive concept.

3. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given

above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.**

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time

of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

4. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the



requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

5. This application contains claims directed to the following patentably distinct species: all the defined compounds of Claims 7, 30 and 33 and the diseases of Claims 12-16 and 18-22. The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, Claim 1, 28 and 31, are generic.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or

employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the

prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey H. Murray whose telephone number is 571-272-9023. The examiner can normally be reached on Mon.-Thurs. 7:30-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson can be reached at 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey H Murray/  
Examiner, Art Unit 1624

**/James O. Wilson/  
Supervisory Patent Examiner  
Art Unit 1624**